United States Environmental Protection Agency

Region 8, Montana Office

Federal Bld., 10W 15th Street, Suite 3200

Helena, Montana 59626

Dear David Rise,

Back in July 25, 2007 for almost a year prior to this date I, Dan Kramer, MRWS Wastewater Tech, and Danny Oberlander have been working on chlorine residual error readings on wastewater discharge. Working with USA Blue Book chemists, Joyce Mattner, provided support to work with us on this problem. We sent the information on the chemical make up of the drinking water, which the Town of Hot Springs is located in a GEO Thermal area, to determine if the chlorine residual could be measured by any other methods at the 0.01ppm +/-. Joyce informed me that do to the manganese concentration and other elements that there is no way a result could be made. This email is supplied this document.

The Town of Hot Springs and with dialog with Tribe and EPA has been trying to come up with a solution. At this time the Town of Hot Springs has been measuring the chlorine level at the Injection point and monthly ecoli and fecal count to determine if the chlorine is too high. If the we have a 0 count then they need to back off the Chlorine if they have a very small count or within discharge permit levels for ecoli or fecal permit levels the Chlorine levels are good. This method of measurement is similar to the method used on UV and Ozone disinfection. I hope this is acceptable method with the Tribe and EPA and in the future. Please advise.

Thank you and Hope to hear from You Soon,

Dan Kramer

MRWS Wastewater Tech

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7/07/2009

CC to

Mike Durglo JR

Confederated Salish and Kootenai Tribes, Water Quality Regulatory Specialist

Dan Kramer

From: Mattner, Joyce [HDS] [jmattner@usabluebook.com]
Sent: Wednesday, July 25, 2007 12:40 PM
To: Dan Kramer
Subject: FW: Chlorine ISE

Hi Dan,

This is all I have so far. I'll bug Lindsey the beginning of next week again.

Joyce

Hi Joyce

I apologize for the delay. We have been very busy here lately. The manganese in this sample is going to be a problem. There is no way to remove it and it will be in the oxidized form due to the chlorine and therefore react with the iodide which must be added. I have to do a few more calculations but since the manganese concentration can be as much as half of the chlorine concentration, there is no way the result can be known to +/- 0.01ppm. I will let you know if I find out otherwise within the next day but it looks like this interference cannot be avoided

Lindsey

Hi Lindsey,

I just wanted to touch base with you to see if you had any information on the Chlorine ISE with all the interferences.

Thank you.

Please let me know if you have any questions.

Joyce Mattner
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